



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/813,558

03/29/2004

Yoshio Ishii

04110/0201116-US0

4103

7278

7590

04/16/2009

DARBY & DARBY P.C.

P.O. BOX 770

Church Street Station

New York, NY 10008-0770

EXAMINER

WEINSTEIN, LEONARD J

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

04/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/813,558	Applicant(s) ISHII ET AL.	
	Examiner LEONARD J. WEINSTEIN	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,5,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) 1,2,4 and 6 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 8 is/are allowed.
- 6) ☒ Claim(s) 5 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment of December 16, 2008. In making the below rejections and/or objections the examiner has considered and addressed each of the applicant's arguments.

2. The examiner acknowledges the amendments to claims 3 and 5.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 3 and 8 are rejected under 35 U.S.C. 102(b) as being anticipate by Kozinski US 5,901,750. Kozinski teaches all the limitations as claimed for a constant circulation resistance tube (10/86) including: **[claim 1]** a resistance adjusting rod 76 coaxially inserted into a hollow capillary (10/86), said constant circulation resistance tube (10/86) being configured for controlling and which can control a flow rate of gas circulating between an inner circumference, as defined by the inner surface of element 86, of the hollow capillary (10/86) and an outer circumference of the resistance adjusting rod 76 by varying an insertion length of the resistance adjusting rod 94 inserted into the hollow capillary (10/86) in order to adjust a circulation resistance of the gas 212, a separation preventing short tube 64 configured for fitting to an outer circumference of the hollow capillary (10/86), via 56, at an opening end 170 in order to fix the insertion length of the resistance adjusting rod 76 in the hollow capillary (10/86)

Art Unit: 3746

and a waste inflow preventing filter 178 fitted, via 46, to an opening of the separation preventing short tube 64 for preventing waste materials from being introduced into the circulating gas; **[claim 8]** and wherein the constant circulation resistance tube (10/86) is configured such that the circulating gas flows along substantially the entire length of the resistance adjusting rod 74 within the hollow capillary (10/86).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Balan et al. US 2003/0024489 in view of Kozo et al. JP 2000-102702. Balan teaches all the limitations as claimed for a vacuum degassing apparatus including: a vacuum vessel 26, an exhaust vacuum pump 32, and a vacuum control system (40 as applied through ¶0033), the vacuum control system 40 including a controller 40 for monitoring the inside pressure of the vacuum vessel 26 using a pressure sensor (¶0036), and controlling a

Art Unit: 3746

voltage applied to a DC brushless motor (¶0033) on the basis of an output signal resulting from measurement of the inside pressure of the vacuum vessel by the pressure sensor (¶0036) to control the displacement of the exhaust vacuum pump 32, and an air introduction device 36 inserted in a vacuum exhaust path (as defined by elements 24, 30, 34, and 37) connecting the vacuum vessel 26 to the exhaust vacuum pump 32 for continuously introducing a controlled amount of air externally supplied into the vacuum exhaust path (24, 30, 34, 37; ¶0034). Balan fails to teach the limitations that are taught by Kozo for a degassing apparatus including: a gas permeation diaphragm 5, wherein gas dissolved in a liquid is isolated with the gas permeation diaphragm 5 by reducing the inside pressure of a vacuum vessel 1 by operating a exhaust vacuum pump 2, and by operating a controller 6 to hold the degree of vacuum in the vacuum vessel 1 constant (Kozo – Patent Abstract, Solution). Balan teaches that it is desirable that gas introduced through valve 36 and into vacuum vessel 26 be filtered, heated, and or dried (¶0034). Kozo teaches the use of a membrane to separate condensate from gas and thus filtering the gas that is exhaust by the vacuum pump 1 (Kozo – Patent Abstract, Problem to be solved). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify a vacuum vessel in a vacuum degassing system for a hydrogen generating apparatus, as taught by Balan, to have a gas permeable membrane, as taught by Kozo, in order to filter the gas introduced from an external source as contemplated by Balan (¶0034).

Allowable Subject Matter

8. Claim 7 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments with respect to claim 5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD J. WEINSTEIN whose telephone number is

Art Unit: 3746

(571)272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/Leonard J Weinstein/
Examiner, Art Unit 3746